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FIG. 1

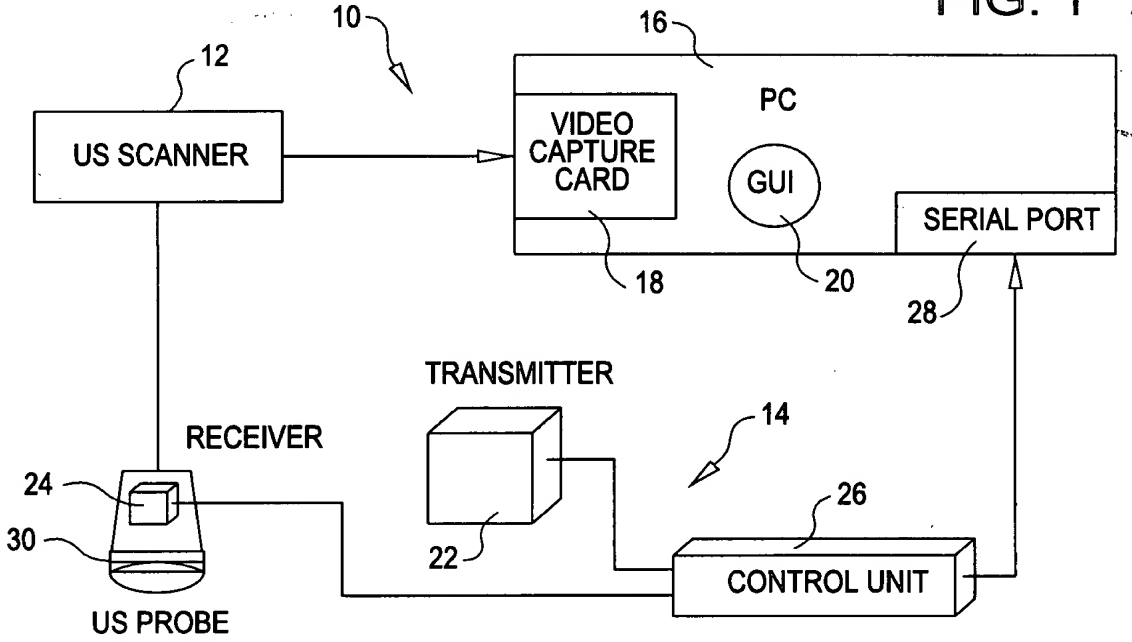

FIG. 2

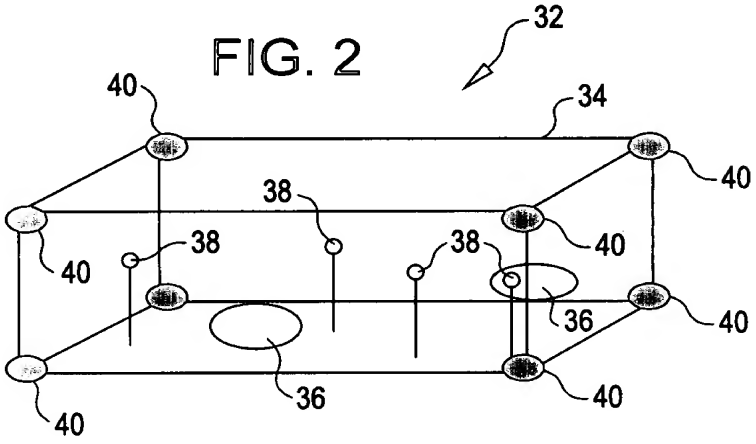

FIG. 3a

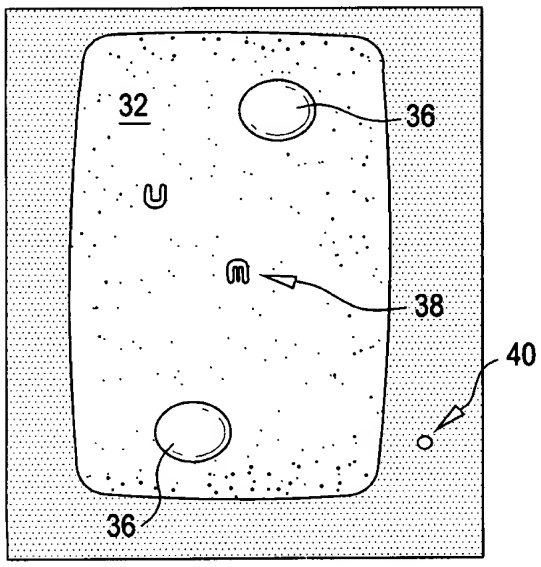

FIG. 3b

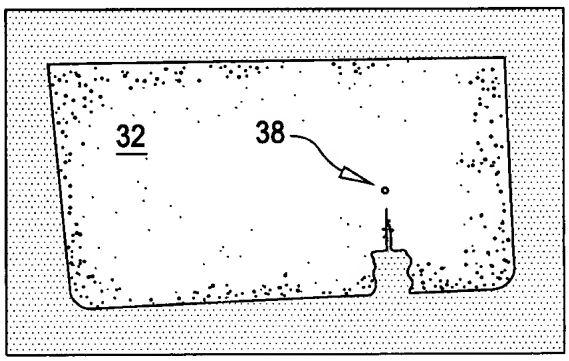

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FIG. 4

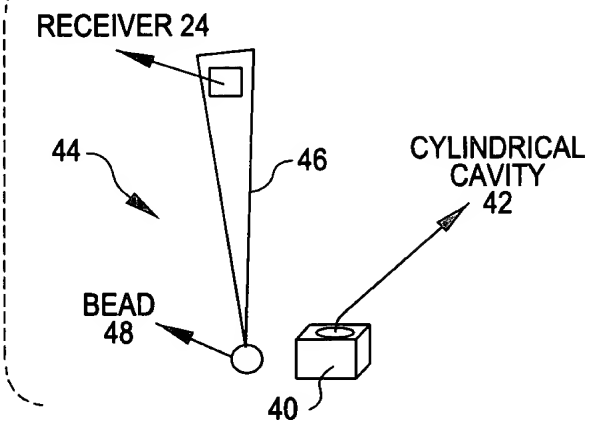

FIG. 5

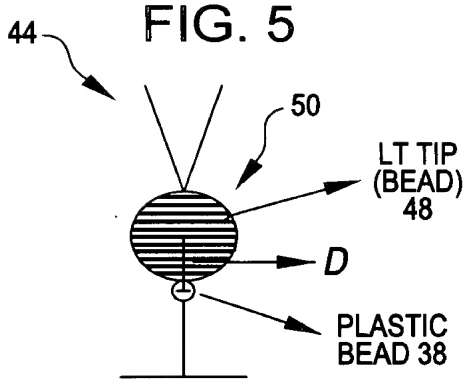

FIG. 6

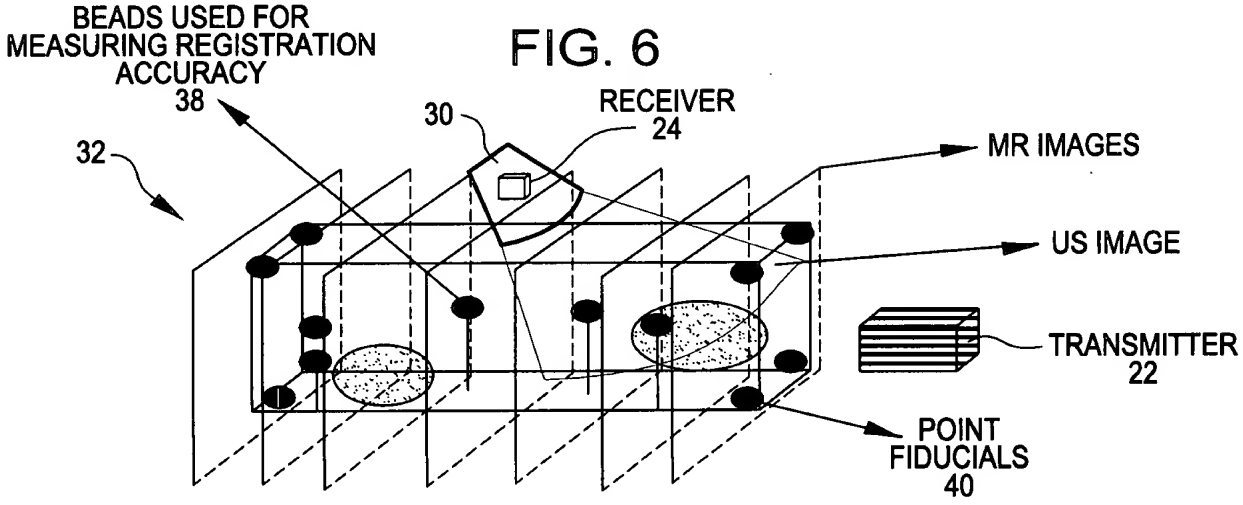

FIG. 7a

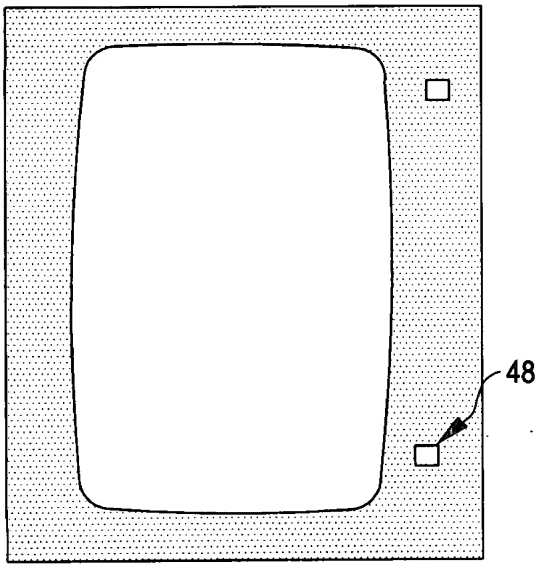

FIG. 7b

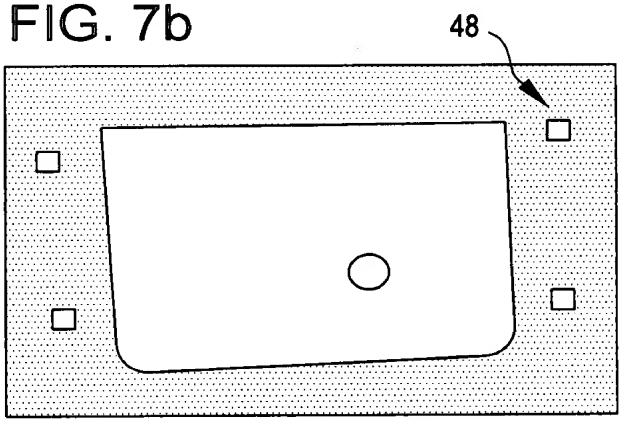

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FIG. 8a

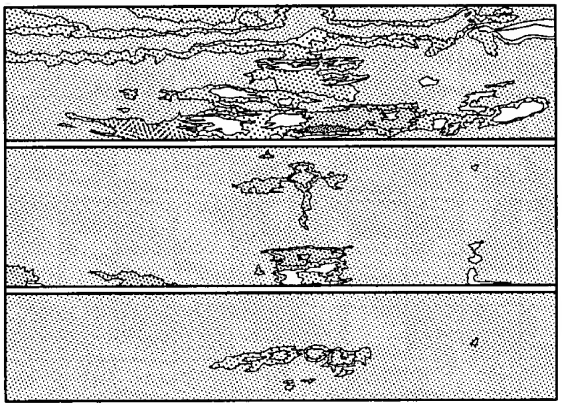

FIG. 8b

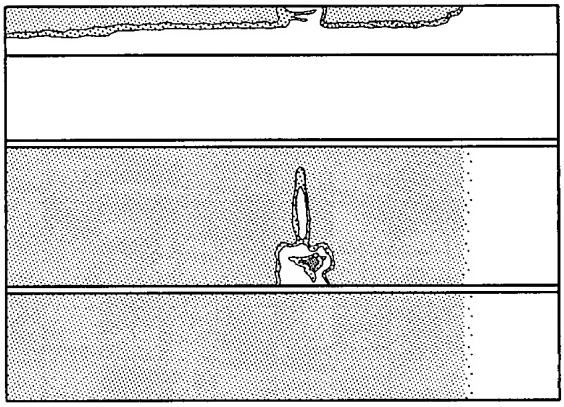

FIG. 9a

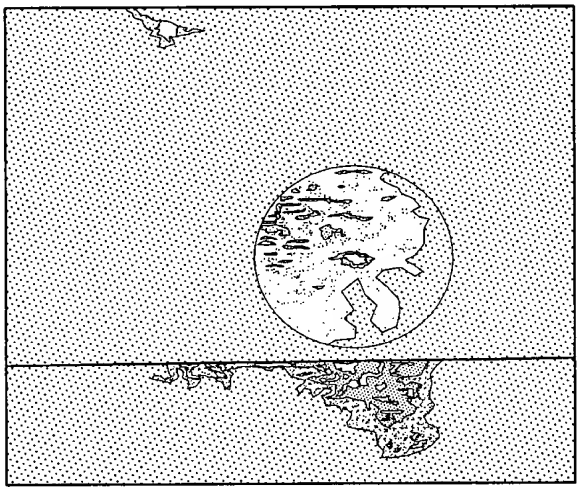

FIG. 9b

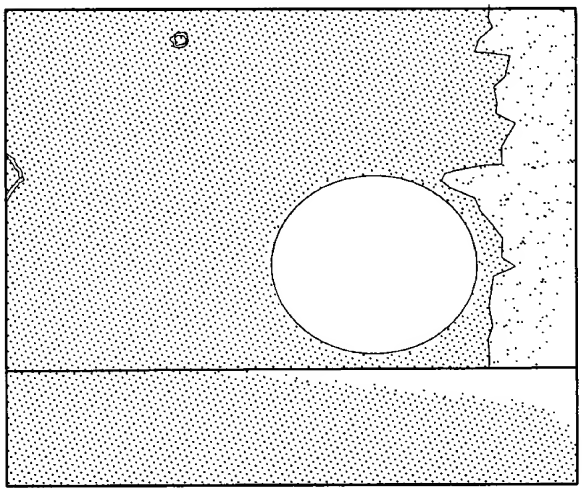

FIG. 9c

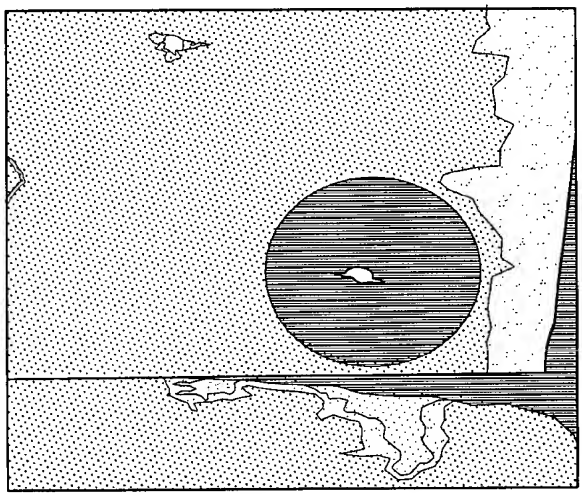

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FIG. 10 (a)

TABLE I. $FRE_{MR\text{-}tran}$ and $TRE_{MR\text{-}tran}$ for 12 different configurations of the phantom 32 and the transmitter 22.

	$FRE_{MR\text{-}tran}$	$TRE_{MR\text{-}tran}$
mean (mm)	1.18	1.78
std (mm)	0.10	0.18
min (mm)	1.02	1.50
max (mm)	1.38	2.08

FIG. 10 (b)

TABLE II. Statistics of the difference $D_{meas} - D_{true}$

	BEAD 1	BEAD 2	BEAD 3	BEAD 4
mean (mm)	-0.01	-0.26	0.03	-0.32
std (mm)	0.57	0.54	0.93	0.59
min (mm)	-0.92	-0.96	-1.55	-1.19
max (mm)	0.81	0.74	1.42	1.18

FIG. 10 (c)

TABLE III. Statistics of registration error $TRE_{US\text{-}MR}$ between MR and US space.

	BEAD AT DEPTH OF 16.8 mm	BEAD AT DEPTH OF 29.9 mm	BEAD AT DEPTH OF 44.5 mm	BEAD AT DEPTH OF 62.9 mm
mean (mm)	3.56	3.00	2.24	2.00
std (mm)	1.82	1.30	0.78	0.75
min (mm)	0.16	0.85	1.03	0.64
max (mm)	8.49	6.24	3.59	3.73

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FIG. 11 (a)

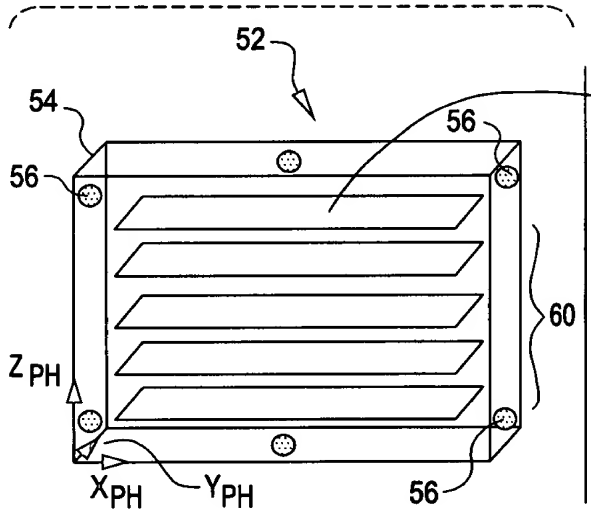

FIG. 11 (b)

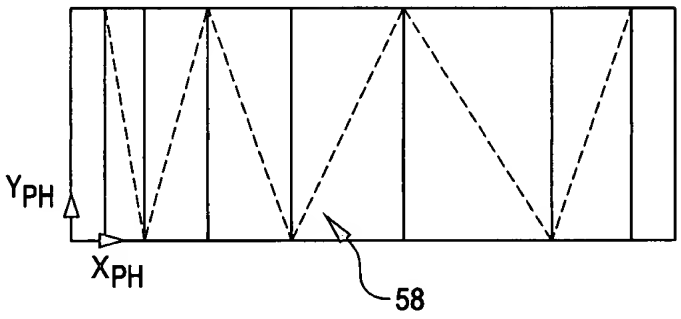
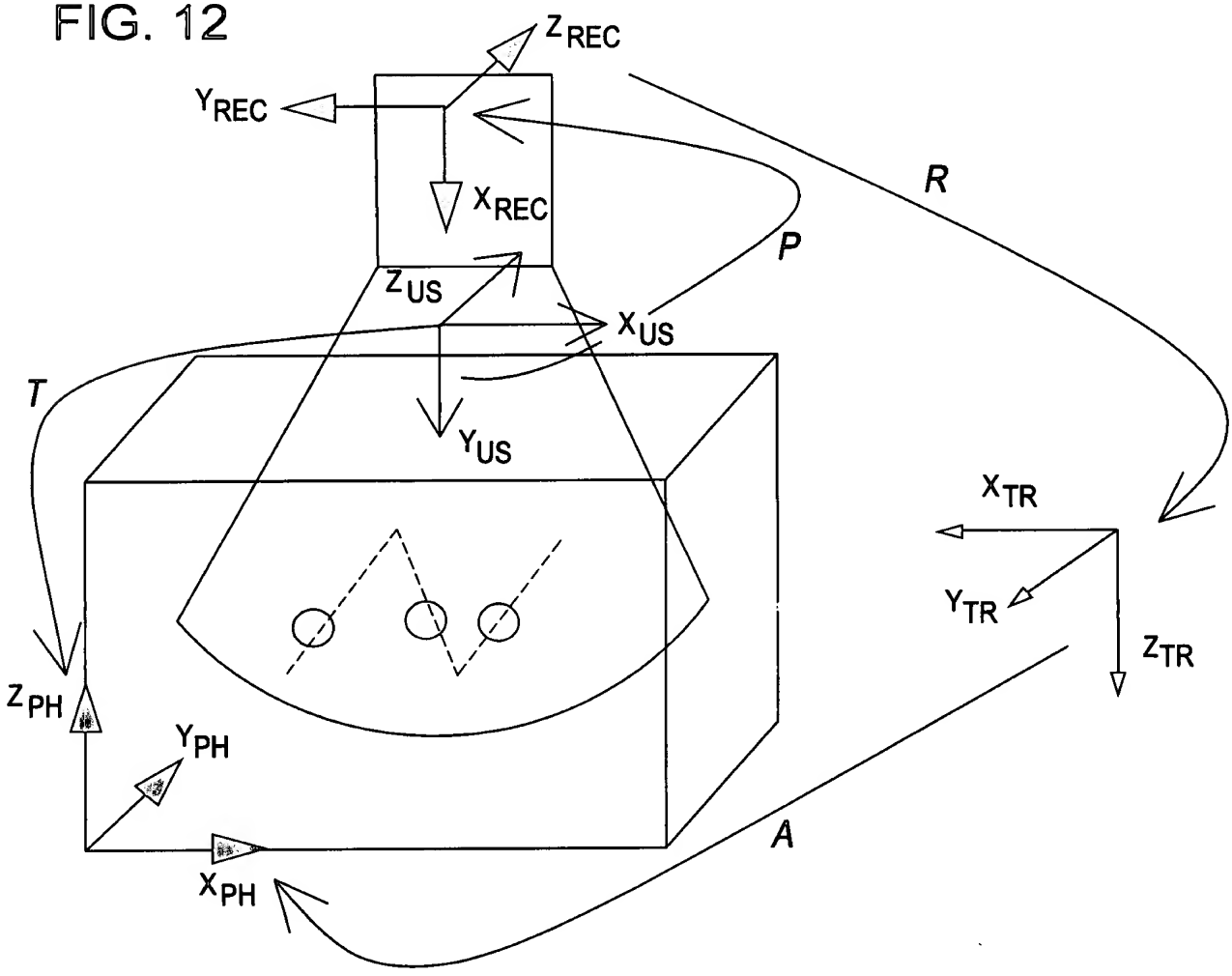
FIG. 12